

ABSTRACT

The present invention provides means for compensating a multi-stage amplifier having a gain extension characteristic for distortions. The present invention also provides an approach for using an amplification stage biased
5 in a state close to B-class, which exhibits a high power added efficiency at low output, in order to have a gain extension characteristic in all stages of a multi-stage amplifier. The amplifier of the present invention has a gain extension characteristic which presents an increase in gain in response to an increase in input power or output power in a certain range of the input power
10 or the output power. The amplifier is characterized in that an emitter grounded amplifier circuit comprising a first bipolar transistor has a base terminal to which an input matching circuit and a cathode of a first diode for supplying a bias voltage are connected through a first impedance element which does not block a direct current, and the first diode has an anode which
15 is connected to a reference power supply which presents a sufficiently low impedance at high frequencies.